

CLASS EXERCISES

Match each expression on the left with an equivalent expression on the right.

1. $2(x^5)^3$

2. $\left(\frac{x^5}{2}\right)^3$

3. $(2x^5)^3$

4. $\frac{2x^5}{x^3}$

5. $\left(\frac{2x}{5}\right)^3$

6. $2x^5 \cdot x^3$

7. $x^5(2x)^3$

8. $x^2 \cdot x^3 \cdot x^5$

a. $8x^{15}$

b. x^{10}

c. $2x^8$

d. $\frac{x^{15}}{8}$

e. $\frac{8x^3}{125}$

f. $2x^{15}$

g. $2x^2$

h. $8x^8$

Algebra 2 Unit 4: WS #1

Tell whether each expression is a monomial. If it is not a monomial, explain why it is not. For each monomial, give its degree and coefficient.

9. $7x^5$

10. $\frac{3}{x}$

11. $\frac{1}{2}a^4b^2$

12. πr^2

PRACTICE EXERCISES

Simplify.

1. $x^6 \cdot x^7$

2. $s^3 \cdot s^2$

3. $y^2(y^4)(y^5)$

4. $p(p^3)(p^5)$

5. $\frac{x^4}{x^3}$

6. $\frac{y^8}{y^3}$

7. $\frac{t^7}{t}$

8. $\frac{z^{10}}{z^6}$

9. $(m^5)^7$

10. $(n^6)^3$

11. $(x^2)^4$

12. $(y^3)^3$

13. $(3x)^4$

14. $(-2y)^3$

15. $(3ab)^2$

16. $(-pq)^6$

17. $\left(\frac{x}{4}\right)^2$

18. $\left(\frac{y}{2}\right)^3$

19. $\left(\frac{2t}{3}\right)^2$

20. $\left(\frac{3x^2}{2}\right)^4$

21. $-(x^4y^3)^2$

22. $(-x^4y^3)^2$

23. $(-6m^2n^2)(3mn)$

24. $(8s^2t^3)(3st^4)$

Give the degree and the coefficient of each monomial.

25. $3x^2$

26. 0.7

27. $-3abc$

28. $\sqrt{6}a^4b$

Simplify.

29. $\frac{1}{4}a^2 \cdot \frac{1}{2}ab$

30. $\frac{13}{2}s \cdot \frac{s}{2}$

31. $(a^5b^4)^3(a^2b)$

32. $(xy^2)^2(x^2y)^3$

33. $(0.4xy)^3(0.2x^2y^4z)$

34. $(-3c^2d)^3(d^2)^4$

35. $(-0.5a^2b^2)^3(8a^4b^5)$

36. $(ef)^2(e^3f^4)$

37. $(2xy)^2(3x)^3(-2z)^3$

38. $(-0.2mn^2p)^3(-8m^2p^3)^2$

39. $\left(\frac{2}{3}a^2b\right)\left(\frac{1}{4}a^3b\right)(3ab^2)$

40. $\left(\frac{2m^7n^3}{3}\right)^2$

41. $\left(\frac{3r^2s}{4}\right)^3$

42. $(-5xyz^3)^3(-2x^2yz)^3$

43. $(-6a^4b)^2(-3ab^2)^2$

44. $(-xy^4)(-2x^4y)^3$

Tell whether each expression is a monomial. If it is not a monomial, explain why it is not.

45. $\sqrt{2}xy^m$

46. $\sqrt{5}xy^2$

47. $\frac{x^2}{y^3}$

48. $-\sqrt{3}x^2y$